



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/523,637

07/01/2005

Hideaki Matsuoka

122662

5864

25944 7590 11/20/2009
OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER

MA, JAMESON Q

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

11/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,637	Applicant(s) MATSUOKA ET AL.	
	Examiner JAMESON Q. MA	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otomo et al. (EP 1 182 250) in view of Bertholdt (US 5,114,854) and Prather et al. (US 4,994,384).

It is noted that applicant has used means plus function language in the following claims 1-6.

Regarding claim 1, Otomo discloses a single-cell operation supporting robot used to inject amphibian oocytes with liquid comprising a means for transportation of a sample injection device (fig. 1 and [0016-0017]; the injection needle is moveable). Additionally, Otomo discloses that a construction can be applied wherein moveable injection needle 6 also moves in the X and Y directions (see [0032]). Therefore, the means for transportation of the sample injection device can move at 4 variances. Also disclosed is a microwell within a tray (9, viewed as a culture dish 'fixed' to a stage) , a light source (11) which is viewed as a 'single cell stimulating device, 'a single cell measuring device (digital camera 10 or CCD camera 7) and at least one computer (control unit 1) which automatically controls actuation of the sample injection transportation means. The CCD camera is connected to a monitor and indication is given from auxillary control unit (2) and the injection needle moving table is operated to move slowly.

Art Unit: 1797

Modified Otomo fails to disclose a microscope and a manual operation means which inputs signals to the computer based on an operation by an operator. Bertholdt teaches a system for the microinjection of liquids or suspensions into living cells. Bertholdt teaches a moveable cannula (12) for injecting liquid and a microscope (fig. 1) which aligns with the cannula to allow for exact observation of the cannula. The microscope is exactly focused on the tip of the cannula and the cells can be seen in the field of view of the microscope (C1/L44-59).

It would have been obvious to one of ordinary skill at the time of invention to substitute for the ccd camera and monitor set up in the device of Otomo, a microscope as taught by Bertholdt, because doing so would have resulted in nothing more than the simple substitution of known methods for positioning an injection device relative to a living cell with a reasonable expectation of success. Bertholdt further teaches a manual operation means (control device 37) capable of inputting signals to the computer (control unit).

Modified Otomo fails to disclose a cell transportation means which transports a cell holding means for holding a single-cell relatively to and from each well of the microwell for storing cells.

Prather teaches a cell holding pipette that is used in conjunction with a transfer pipette in the micromanipulation of bovine cells (C4/L20-35). The cell holding pipette holds an oocyte in place by mild suction while the transfer pipette is inserted into the oocyte (C4/L36-42). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate into the device of modified Otomo, a cell holding pipette

Art Unit: 1797

as taught by Prather in order to allow for easier transfer of fluid into the individual cells/oocytes. It would have further been obvious to allow the cell holding pipette of modified Otomo to move in 4 variances so that it would be able to reach all positions of the sample injecting device.

Regarding claim 2, Otomo discloses that the microwell is a multimicrowell.

Regarding claims 3 and 5, Bertholdt teaches that an automatic stage is provided on the stage of the microscope.

Regarding claim 4, Otomo discloses that the sample injection transportation means has a manipulator which transports the sample injection means relatively to and from the stage ([0016]).

Regarding claim 6, while modified Otomo fails to disclose the cell holding pipette having a manipulator, it would have been obvious to one of ordinary skill in the art at the time of invention to install the cell holding pipette of Prather into the system of modified Otomo with a manipulator substantially similar to the manipulator used to move the sample injection device, because doing so would have allowed the cell holding pipette to be controlled by the operator via the control unit/computer/manual operation means.

Response to Arguments

3. Applicant's arguments filed 7/6/2009 have been fully considered but they are not persuasive. Regarding applicant's newly amended feature of the sample injection device and cell holding device moving at 4 variances, a new section of Otomo (see [0032]) has been relied upon. Regarding applicant's assertion that Otomo and the claimed invention differ in their objects to be solved, it is noted that that assertion alone

Art Unit: 1797

is not sufficient to overcome the prior art reference so long as the prior art reference is not structurally distinct from the instant apparatus claims. Applicant also asserts that incorporating a microscope instead of a ccd camera and monitor would likely complicate Otomo's apparatus and deteriorate efficiency. This assertion is not found convincing absent evidence in support of it. Further, Otomo discloses that its invention is also directed to injecting oocytes with a guaranteed quality (see [0001]) wherein sample has been injected into oocytes at a specified position and depth. A microscope would allow for at least comparable if not better results than a ccd camera and monitor absent evidence to the contrary. Applicant also presents arguments as to the size, however, this is not claimed.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1797

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMESON Q. MA whose telephone number is (571)270-7063. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on (571)272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JM
November 19, 2009

/Michael A Marcheschi/
Supervisory Patent Examiner, Art
Unit 1797